



SAMHSA-HRSA CENTER for INTEGRATED HEALTH SOLUTIONS

Best Practices in Hepatitis Prevention and Care

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Learning Objectives

Participants will be able to:

- Understand the burden of viral hepatitis in the US
- Describe the populations at risk for viral hepatitis
- Understand viral hepatitis screening recommendations
- Describe key barriers to identifying individuals with viral hepatitis and engaging them in care
- Discuss effective strategies and tools for addressing viral hepatitis

Viral Hepatitis – The Silent Epidemic

Viral hepatitis is caused by one of 5 distinct viruses

Transmitted through the fecal-oral route (hepatitis A) or blood exposure (hepatitis B, C)

Over 5 million individuals in the US are infected with viral hepatitis and many are undiagnosed and unaware

- Asymptomatic disease
- Stigma
- Low prioritization by clinicians
- Ineffective treatment options

Hepatitis A, B, and C Are Distinct Viruses

Hepatitis A virus (HAV)

- <2,000 new cases in the US annually;
- Preventive vaccine available – often recommended for travel overseas

Hepatitis B virus (HBV)

- ~1million chronically infected in the United States; 5,000 deaths annually
- Preventive vaccine available

Hepatitis C virus (HCV)

- > 3million chronically infected in the US
- Can be cured with treatment with new drugs
- NO available vaccine

<http://www.cdc.gov/hepatitis/>

Hepatitis B and C Have Distinct Treatment Goals



Hepatitis B virus (HBV) is **NOT** curable with current therapy; treatment goal is long-term viral suppression

- This goal is similar to that in HIV

Hepatitis C virus (HCV) **is curable**; currently available therapies have cure rates >95%

HBV and HCV Routes of Transmission

	Hepatitis B	Hepatitis C
Routes of Transmission	<p>Contact with infectious blood, semen, and other bodily fluids primarily through:</p> <ul style="list-style-type: none">• Birth to an infected mother• Sexual contact with infected person• Sharing contaminated injection drug equipment• Needlesticks	<p>Contact with blood of an infected person primarily through:</p> <ul style="list-style-type: none">• Sharing contaminated injection drug equipment

Source: The ABCs of Hepatitis, http://www.cdc.gov/hepatitis/Resources/Professionals/PDFs/ABCTable_BW.pdf

HBV and HCV Persons at Risk

	Hepatitis B	Hepatitis C
Persons at Risk	<ul style="list-style-type: none">• Sex partners of infected persons• Persons with multiple sex partners• Persons with STIs• Men who have sex with men• People who use injection drugs	<ul style="list-style-type: none">• People who use injection drugs (current or former)• People living with HIV

Source: The ABCs of Hepatitis, http://www.cdc.gov/hepatitis/Resources/Professionals/PDFs/ABCTable_BW.pdf

Hepatitis and PWHA

- Of the 1.1 million PWHA in the U.S., one-third are co-infected with hepatitis
 - 25% co-infected with HCV
 - 10% co-infected with HBV
- 80% of people with HIV who use injection drugs are co-infected with HCV

Source: HIV and Viral Hepatitis, http://www.cdc.gov/hiv/pdf/library_factsheets_HIV_and_viral_Hepatitis.pdf

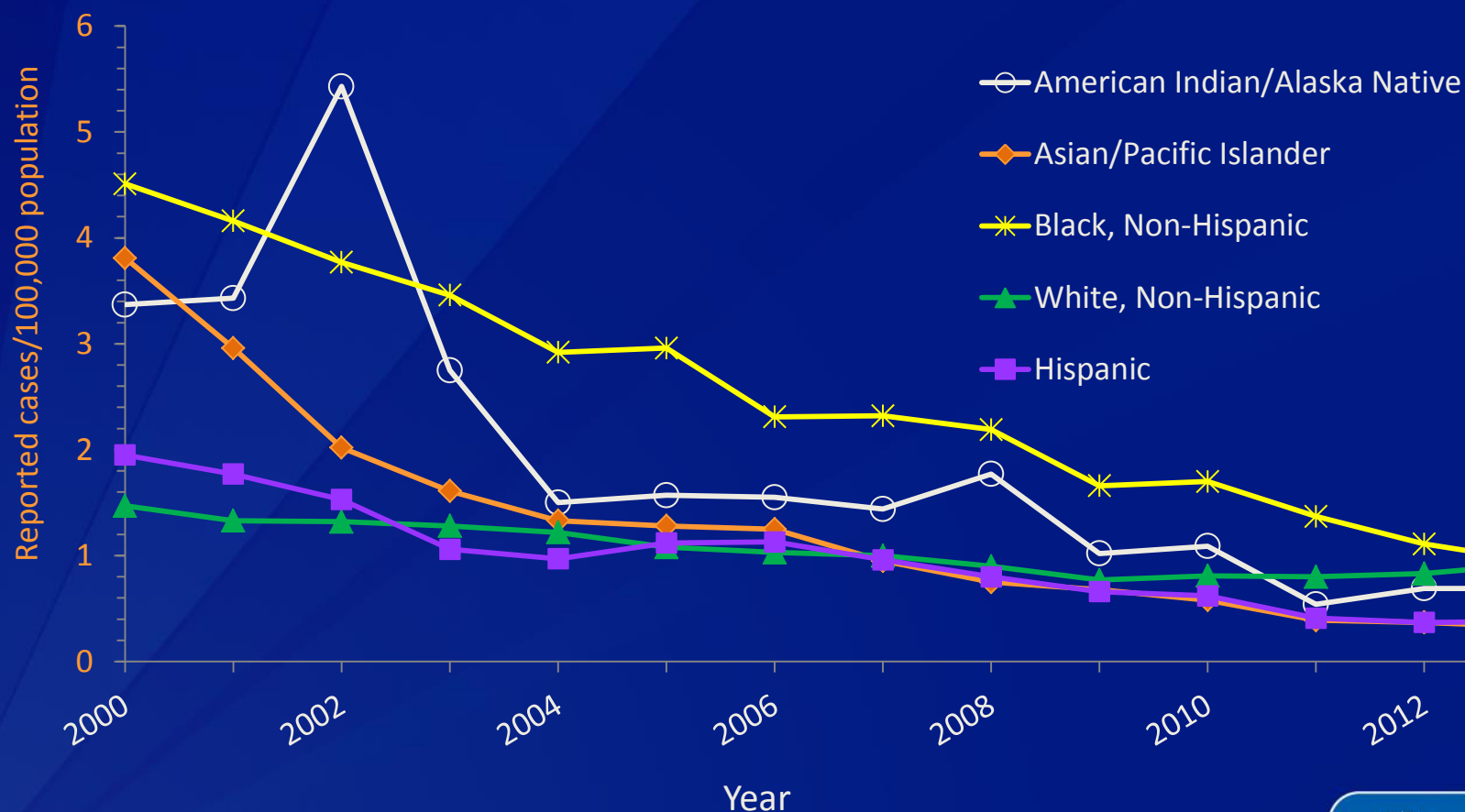
Management of HBV Infection: Epidemiology, Screening, and Vaccination Strategies

Current Hepatitis B Virus (HBV) Infection Among the U.S. Population

- An estimated 1.4 million people living with chronic HBV infection (2013)
- 3,050 reported acute hepatitis B cases in 2013
 - Incidence rate of 1.0 cases per 100,000
- Estimated 19,800 new HBV infections in 2013
 - Many HBV infections are asymptomatic or unreported
- Rates are highest among males 25-44
- 1 in 12 Asian Americans and Pacific Islanders are infected

Source: Viral Hepatitis Surveillance, United States 2013,
<http://www.cdc.gov/hepatitis/statistics/2013surveillance/pdfs/2013hepsurveillancerpt.pdf>
<http://www.cdc.gov/features/AAPIHepatitisB/>

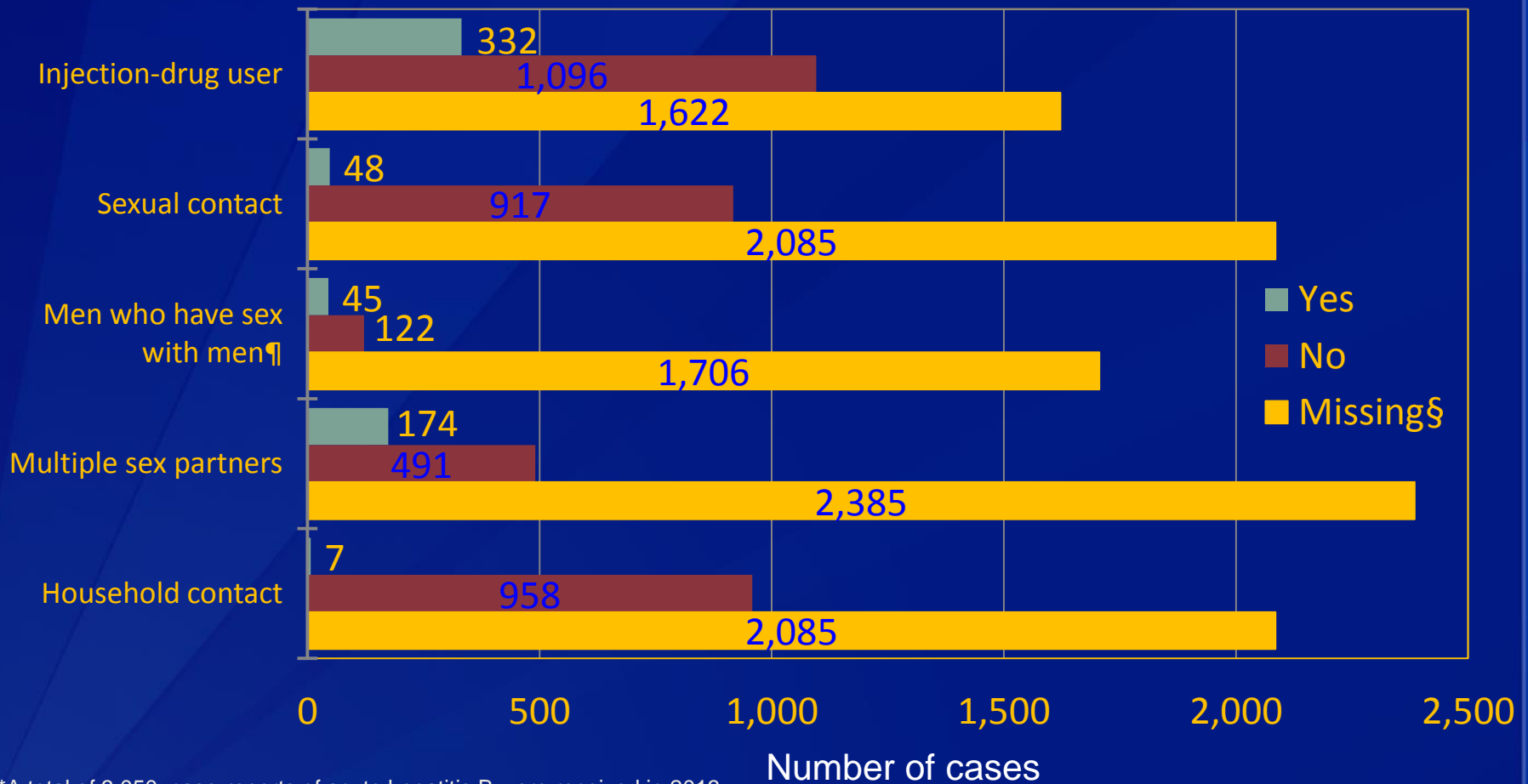
Figure 3.4. Incidence of acute hepatitis B, by race/ethnicity — United States, 2000–2013



Source: National Notifiable Diseases Surveillance System (NNDSS)



**Figure 3.6a. Acute hepatitis B reports*,
by risk exposure/behavior† — United States, 2013**



*A total of 3,050 case-reports of acute hepatitis B were received in 2013.

† More than one risk exposure/behavior may be indicated on each case-report.

§ No risk data reported.

¶ A total of 1,873 acute hepatitis B cases were reported among males in 2013.

Source: National Notifiable Diseases Surveillance System (NNDSS)



Impact of HBV Infection

- HBV is 50-100 times more infectious than HIV
- Acute HBV infection decreased by 62% from 2000 to 2013
 - *Increased by 5.4% from 2012 to 2013 (mostly between 30-49 year olds)
- 15-25% of people with chronic HBV infection develop serious liver problems (e.g., liver damage, cirrhosis, liver failure, liver cancer)
- Approximately 3,000 die annually from hepatitis B-related liver disease

Screening Recommendations for HBV

- People who use injection drugs
- Men who have sex with men
- Needle-sharing or sexual partners of persons infected with HBV
- PWHA
- Persons born in regions with high rates of HBV
- All pregnant women

HBV Prevention Through Vaccination

- HBV Vaccination Recommendations
 - Sexual partners of persons with HBV
 - People with multiple sex partners
 - People with STIs
 - Men who have sex with men
 - People who use injection drugs
 - All infants at birth
 - PWHA

Attainable Goal: Elimination of Mother-to-Child Transmission of HBV

- Most new HBV infections in immune-competent adults are resolved by the immune system and do not develop into chronic infection
- Most HBV infections in infants DO develop into chronic infection

Barriers to HBV Screening and Vaccination

- Awareness
- Target population identification
- Cultural/language barriers
- Perception of risk/low prioritization
- Interpretation of HBV screening results
 - Hepatitis B blood panel is comprised of 3 tests
- Completion of HBV vaccine series
 - 2 to 4 doses for adults and children

Health Consequences of HIV / HBV Co-Infection

- Higher levels of HBV DNA
- Rapid liver disease progression
- Lower rates of HBV clearance
- Increased risk of liver-related mortality
- Decreased response to HBV treatment
- Higher risk of hepatotoxicity following ART initiation
- Little effect on HIV disease progression

Group Discussion

Questions/Prompts TBD (Close of business Aug 7th)

Resources for HBV Screening and Vaccination

- **Hepatitis B Foundation** – www.HepB.org
- **CDCs Know Hepatitis B Campaign** – <http://www.cdc.gov/knowhepatitisB/>
- **CDC's Hepatitis B Professional Resources** – <http://www.cdc.gov/hepatitis/hbv/profresourcesb.htm>
- **CDC's Adult Hepatitis B Vaccination Guidelines and Recommendations** – <http://www.cdc.gov/hepatitis/hbv/vaccadults.htm>

Management of HCV Infection: Epidemiology, Screening, and Treatment Approaches

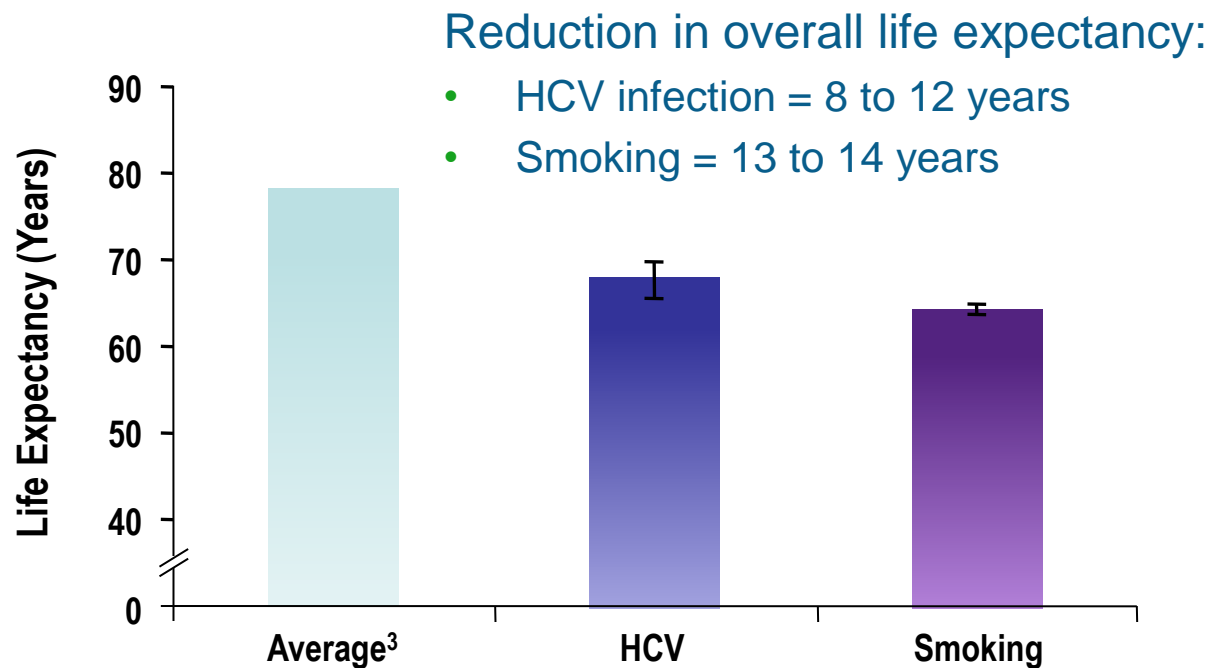
HCV Can Be Cured!

Impact of HCV Infection

- Approximately 3.2 million in the US are chronically infected; HCV is the most common blood-borne infection in the United States
 - 45-85% of those infected are unaware of infection
- 250% increase in acute HCV infection between 2010 and 2013
- For every 100 people infected with HCV:
 - 75-85 develop chronic infection
 - 60-70 develop chronic liver infection
 - 5-20 develop cirrhosis
 - 1-5 will die from liver cancer or cirrhosis

Armstrong et al. *Ann Intern Med*, 2006; HCV FAQs for Health Professionals, <http://www.cdc.gov/hepatitis/hcv/hcvfaq.htm#section1>

Chronic HCV Infection Reduces Life Expectancy to A Similar Degree as Smoking Tobacco

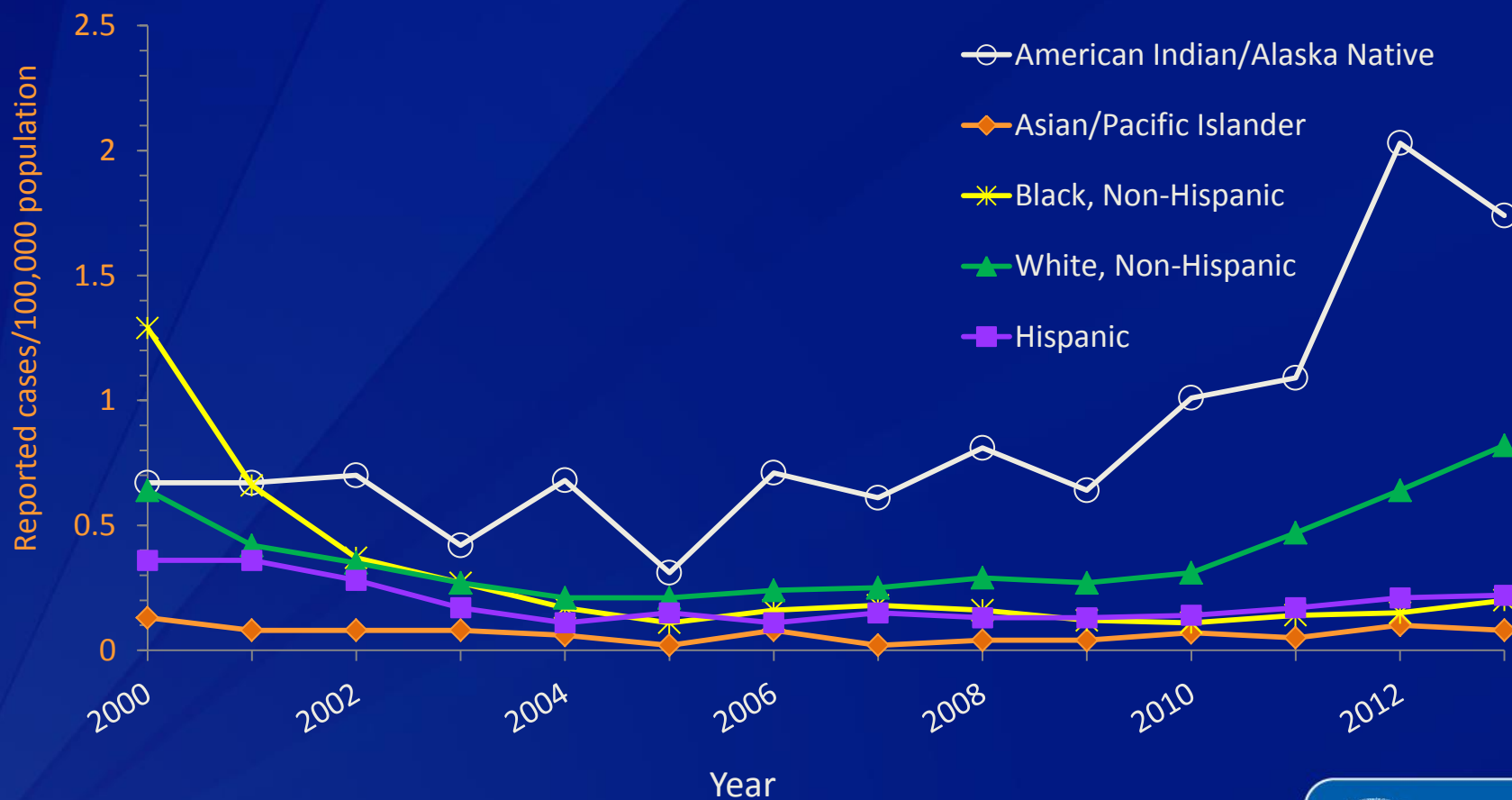


Ryder SD. *J Hepatol.* 2007;47(1):4-6.

Centers for Disease Control and Prevention. *MMWR.* 2002;51:300-303.

Centers for Disease Control and Prevention. *NVSS.* 2010;58(19):1-135.

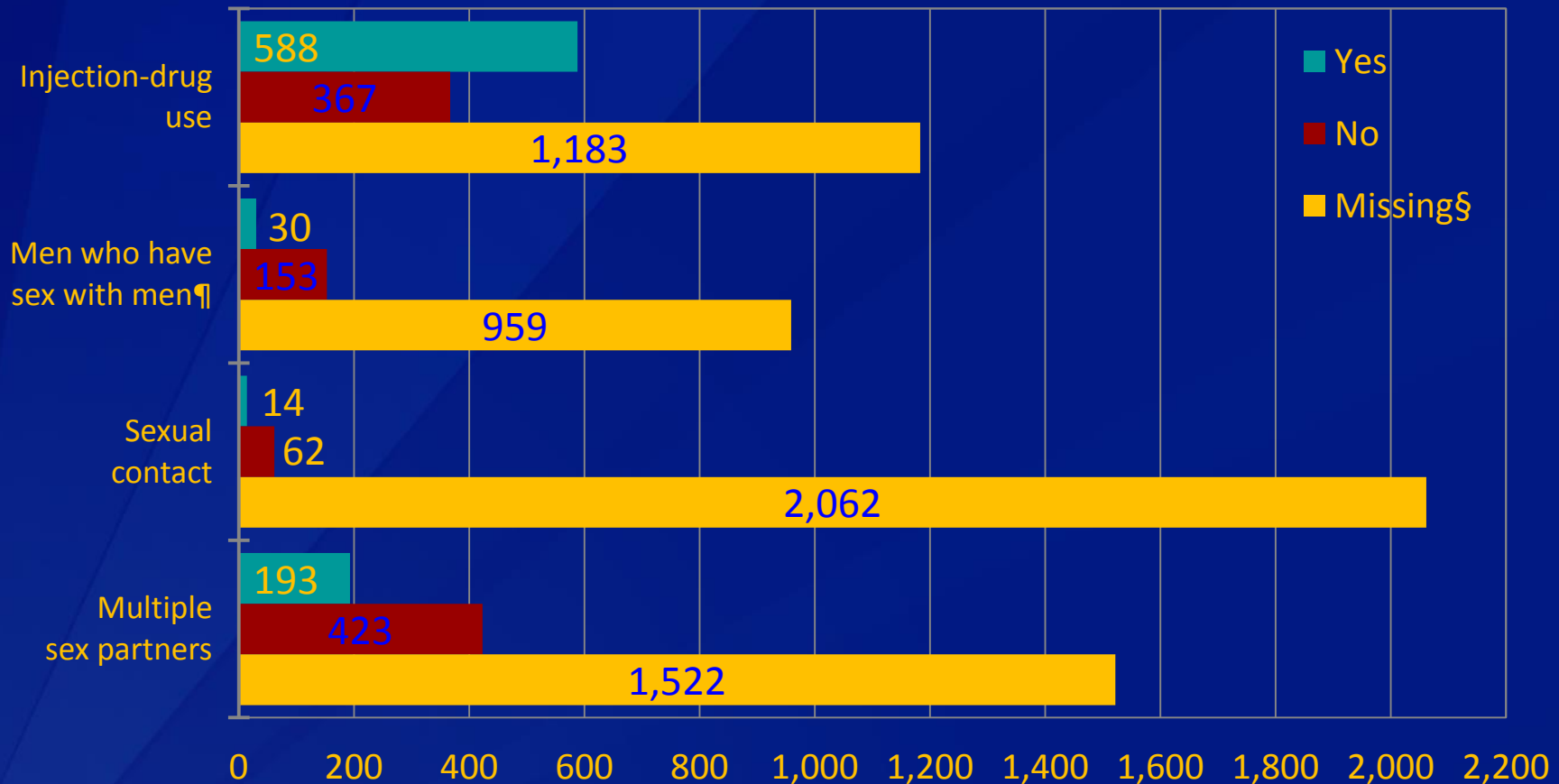
Figure 4.4. Incidence of acute hepatitis C, by race/ethnicity — United States, 2000–2013



Source: National Notifiable Diseases Surveillance System (NNDSS)



**Figure 4.6a. Acute hepatitis C reports*,
by risk exposure/behavior† – United States, 2013**



*A total of 2,138 case reports of acute hepatitis C were received in 2013.

† More than one risk exposure/behavior may be indicated on each case-report.

§ Risk data not reported.

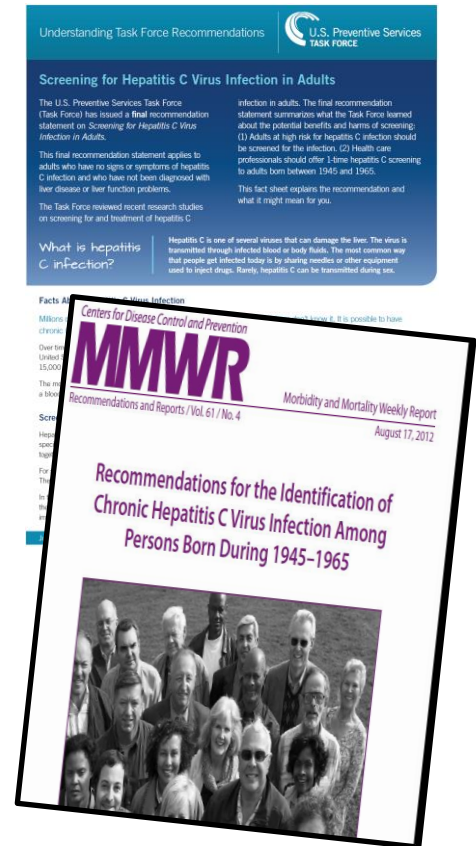
¶ A total of 1,142 acute hepatitis C cases were reported among males in 2013.

Source: National Notifiable Diseases Surveillance System (NNDSS)



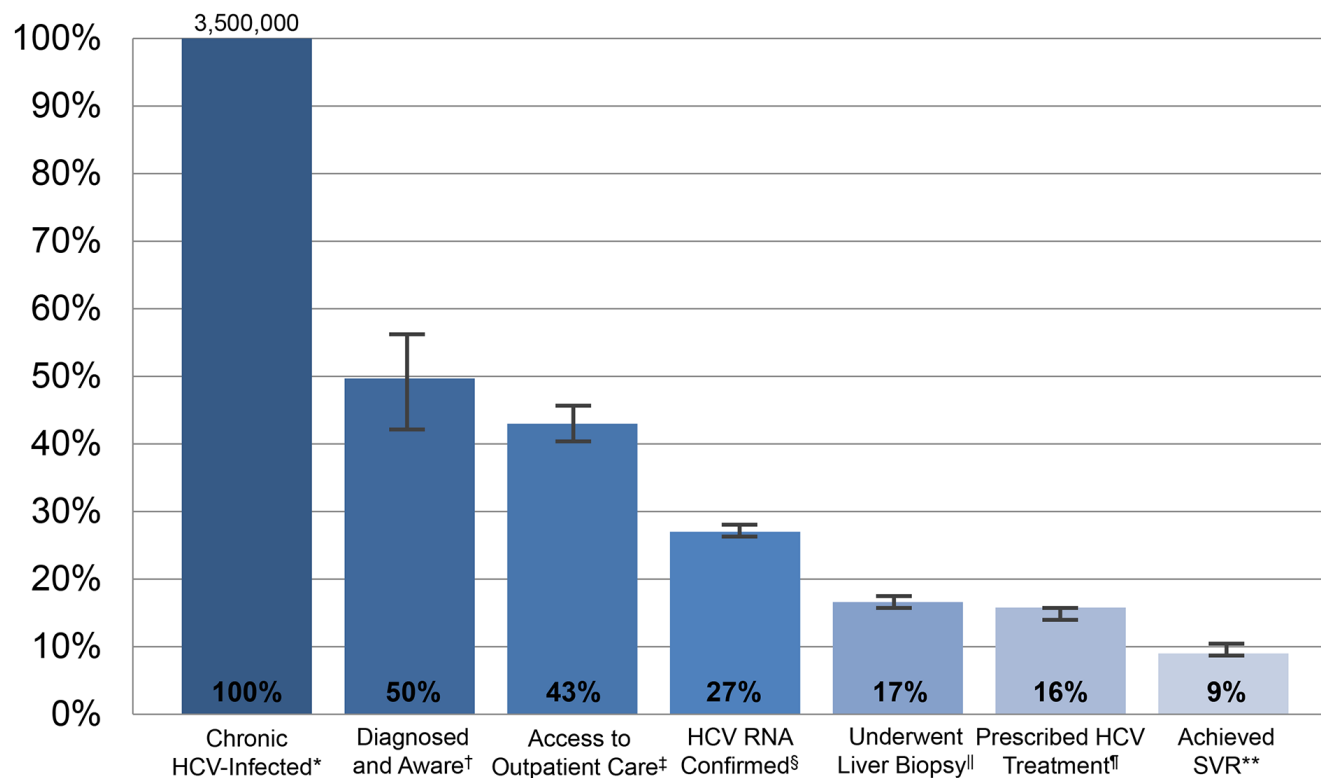
Recommendations for HCV Screening

- One time screening test for persons born 1945-1965
- Major risk - past or present injection drug use
- Other risks
 - Received blood/organs prior to June 1992
 - Received blood products made prior to 1987
 - Ever on chronic hemodialysis
 - Infants born to HCV infected mothers
 - Intranasal drug use
 - Unregulated tattoo
 - History of incarceration
- Medical
 - Persistently elevated ALT (liver enzymes)
 - HIV infection (annual testing)



MMWR Aug 2012. Moyer VA, Ann Int Med 2013.

The HCV Care Continuum



* Chronic HCV-Infected; N=3,500,000.

† Calculated as estimated number chronic HCV-infected (3,500,000) x estimated percentage diagnosed and aware of their infection (49.8%); n=1,743,000.

‡ Calculated as estimated number diagnosed and aware (1,743,000) x estimated percentage with access to outpatient care (86.9%); n=1,514,667.

§ Calculated as estimated number with access to outpatient care (1,514,667) x estimated percentage HCV RNA confirmed (62.9%); n=952,726.

|| Calculated as estimated number with access to outpatient care (1,514,667) x estimated percentage who underwent liver biopsy (38.4%); n=581,632.

¶ Calculated as estimated number with access to outpatient care (1,514,667) x estimated percentage prescribed HCV treatment (36.7%); n=555,883.

** Calculated as estimated number prescribed HCV treatment (555,883) x estimated percentage who achieved SVR (58.8%); n=326,859.

Note: Only non-VA studies are included in the above HCV treatment cascade.

Yehia B, Schranz A, Umscheid, C, et al. The treatment cascade for chronic hepatitis C virus infection in the United States: a systematic review and meta-analysis. *PLoS One*. 2014;9(7): e101554.

HCV Treatment as prevention?

New treatments may cure more than 95% of patients

- They are well-tolerated and safe, and treatment is only 8-24 weeks
- New treatments are expensive, but studies have shown that they are cost-effective

However, currently only **1-2%** of PWID with chronic HCV infection are treated each year

Curing HCV infection in PWID will help prevent new HCV infections

- It will reduce the number of infectious carriers
- With fewer carriers, syringe access and OST programs will be more effective

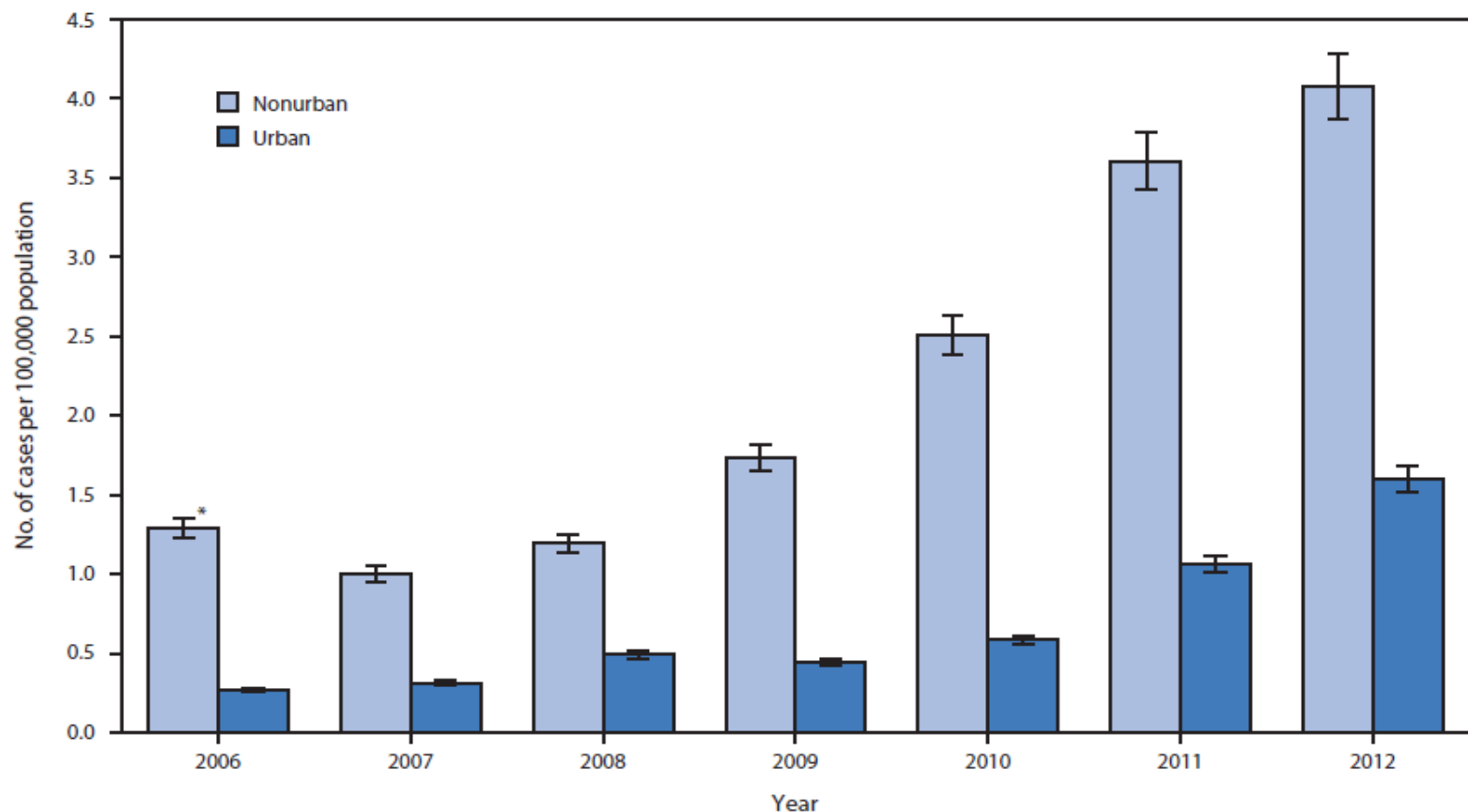
However, HCV treatment alone will not control HCV infection in PWID

- Combined HCV prevention – syringe access and OST – must be continued (and expanded)

Barriers to HCV Screening and Treatment

- Awareness
- Target population identification
- Perception of risk/low prioritization
- Concomitant risk behaviors
- Need for confirmatory testing
- Perceptions of treatment
- Access to treatment

Current Epidemic of HCV Among Young PWID



Zibbell JE, et al. Increases in Hepatitis C Virus Infection Related to Injection Drug Use Among Persons Aged ≤ 30 Years — Kentucky, Tennessee, Virginia, and West Virginia, 2006–2012. MMWR. 2015;64(17);453-458

Health Consequences of HIV / HCV Co-Infection

- Leading cause of morbidity and mortality among PWHAs
- Increased HCV viral load
- Increased hepatitis C disease progression
- Tripled risk of developing liver disease, liver failure, and liver-related death
- Increased chance of sexually transmitting HCV

Group Discussion

Questions/Prompts TBD (Close of business Aug 7th)

Tools to Support Viral Hepatitis Activities

Comprehensive Strategies to Addressing Viral Hepatitis

Prevention

- Increase provider and public awareness
- Address risk behaviors
- Vaccination

Screening & Diagnosis

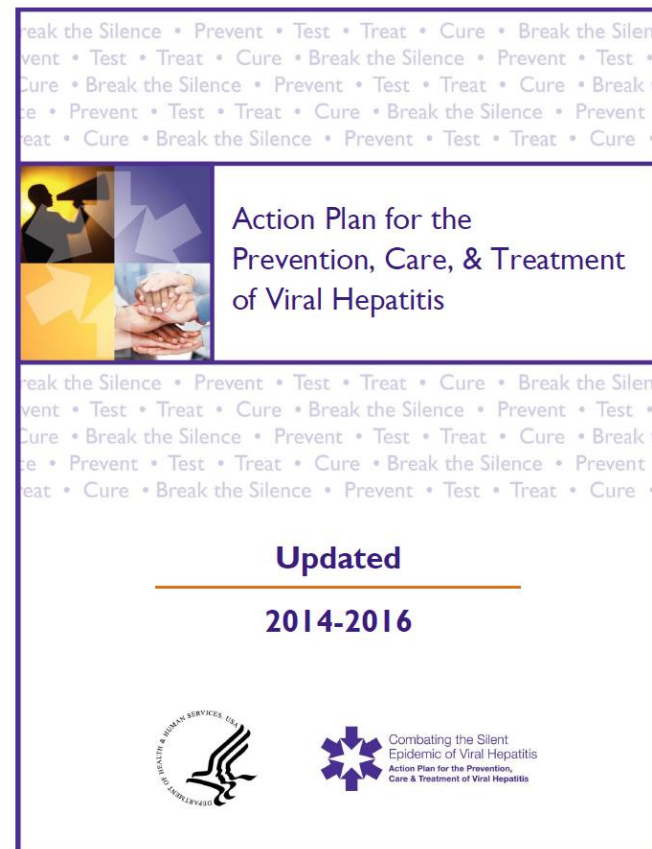
- Routinize screening protocols
- Ensure confirmatory diagnoses
- Support healthy behaviors

Treatment

- Link the diagnosed to care
- On-treatment support
- Comorbidity management
- Prevent re-infection (HCV)

U.S. Viral Hepatitis Action Plan (Updated 2014-2016)

- Educating providers and communities to reduce health disparities
- Improving testing, care, and treatment to prevent liver disease and cancer
- Strengthening surveillance to detect viral hepatitis transmission and disease
- Eliminating transmission of vaccine-preventable viral hepatitis
- Reducing viral hepatitis cases associated with drug-use behaviors
- Protecting patients and workers from health-care-associated viral hepatitis



Stakeholder Workbook

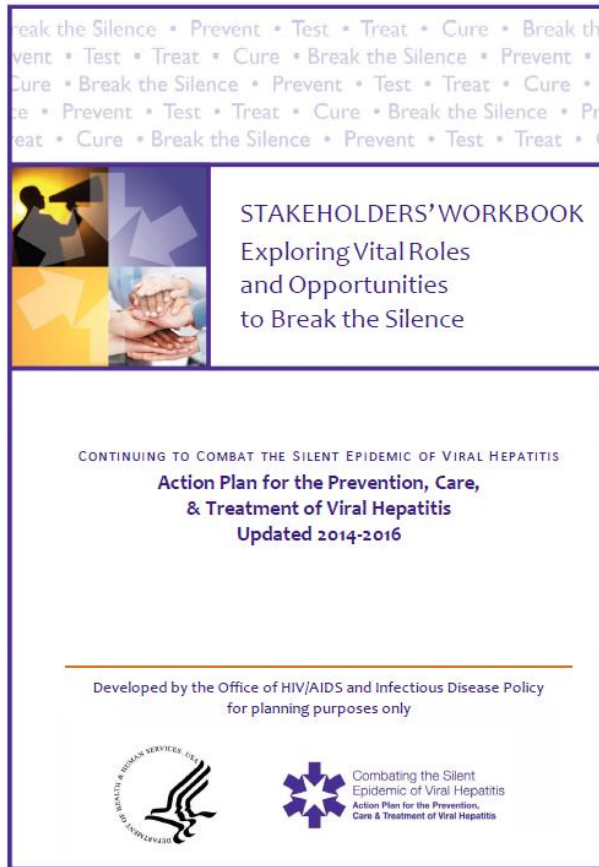
Purpose: Facilitate opportunities to talk through potential activities, challenges, tools, resources, and partnerships related to each priority area.

Discussion questions provided, e.g.,

- What are the best ways to identify persons with chronic viral hepatitis who do not know they are infected? What can your organization do to promote this?

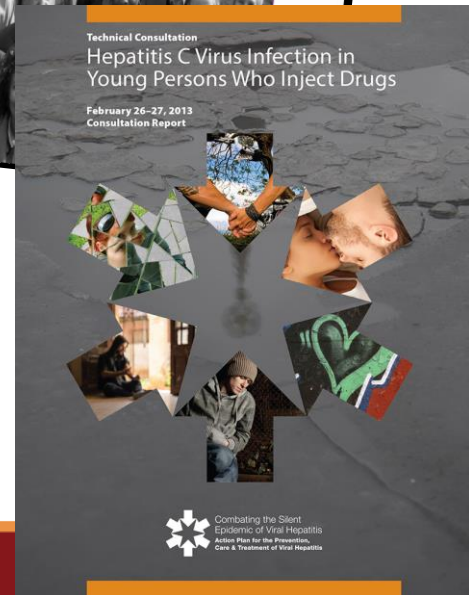
Sample hepatitis planning sheet to prioritize, set timeframes, & measures

Available at www.AIDS.gov/hepatitis



The Patient Protection & Affordable Care Act

111th Congress of the United States
H.R. 3590



Resources

- [The ABCs of Hepatitis](#)
- [TIP 53: Addressing Viral Hepatitis in People with Substance Use Disorders](#)
- [Guide to Comprehensive Hepatitis C Counseling and Testing](#)
- [NY State Department of Health AIDS Institute: Hepatitis C Rapid Testing Program Implementation Guidelines](#)

Resources

New York University Center for Drug Use and HIV Research HCV brief:

- <http://cduhr.org/docs/reports/CDUHR-HCV-Implementation-Brief-Nov2014.pdf>

Harm Reduction Coalition information on HCV prevention

- <http://harmreduction.org/syringe-access/syringe-access-tools/seps-and-hepatitis-c/>

The HCV Advocate

- http://www.hcvadvocate.org/hepatitis/factsheets_pdf/Harm_Reduction_Overview.pdf

National Viral Hepatitis Roundtable

- <http://nvhr.org/content/navigating-hepatitis-c-what-patients-need-know-0>
- <http://nvhr.org/content/new-report-hcv-treatment-access-restrictions>

Thank You

Questions? jmayas2@mayatech.com